

# 14th International Fatigue Congress (IFC14)

## Proposed session

**Title: Beyond the empirical Kitagawa-Takahashi diagram: New insights into defect-driven fatigue behaviour**

## Session Organizers

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## Abstract

The Kitagawa-Takahashi diagram is an important tool for describing the fatigue limit of components containing cracks or defects. The models used for its description differ, especially in the technical relevant transition (short-crack) region. Hence, for a reliable statement about the fatigue limit in this area, on the one hand an experimental validation of the models is necessary and, on the other, it is imperative to improve the descriptive and predictive capabilities of existing models.

This symposium aims to identify new experimental methods for collecting data, and improved or new models for describing Kitagawa-Takahashi diagrams, thereby contributing to the improvement of service life predictions for components containing defects.

Topics of interest include, but are not limited to:

- Experimental characterization techniques
- Investigation of influencing parameters, such as defect shape, microstructure and residual stresses
- New or improved models for describing Kitagawa-Takahashi diagrams
- Use of short-crack models for the prediction of Kitagawa-Takahashi diagrams
- Transferability from test coupons to components